

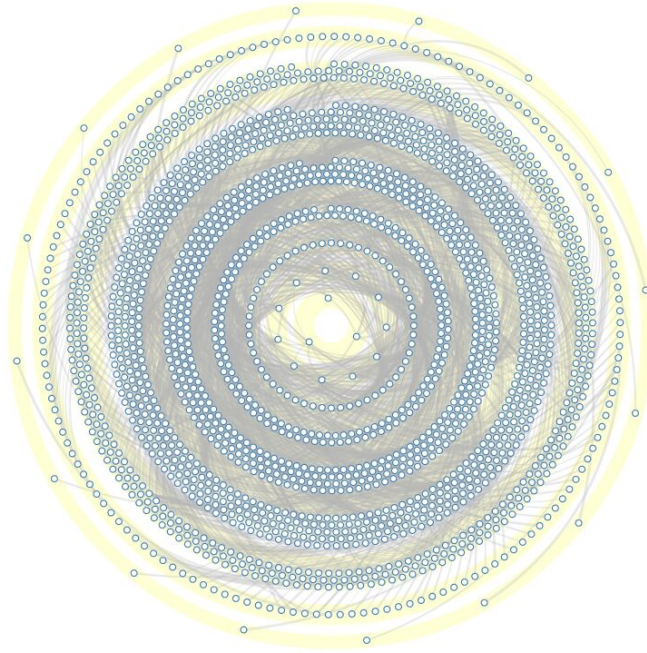
Weekly Report

2015/12/14-2015/12/20

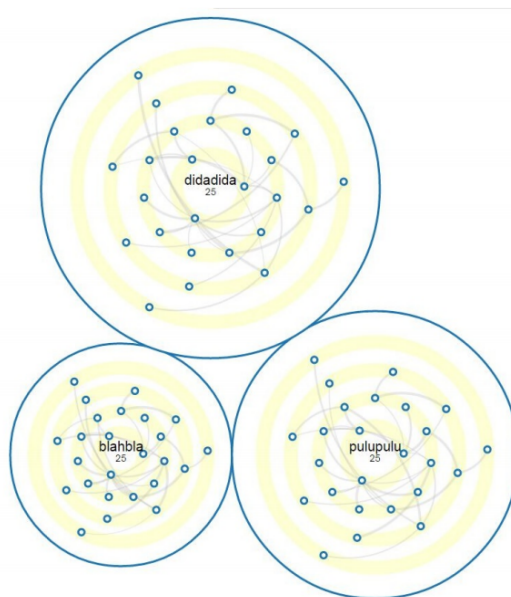
1 Done

1.1 Project:

Mend the old layout to compact the nodes in the same layer and highlight the layer-representing rings.



Use new layout which encapsulates the asnumbers of different countries and regions in different bubbles.



1.2 Paper reading(A Survey of Visualization Pipelines):

1. Visualization pipeline: computation is described as a collection of executable modules that connected in a directed graph representing how data moves between modules.
2. Managing the caching often involves a tradeoff between speed and memory. The cost of caching can be mitigated by favoring shallow copies of data from a module's inputs to its outputs.
3. A shallow copy of an object copies all of the member field values. This works well if the fields are values, but may not be what you want for fields that point to dynamically allocated memory. The pointer will be copied, but the memory it points to will not be copied -- the field in both the original object and the copy will then point to the same dynamically allocated memory, which is not usually what you want. The default copy constructor and assignment operator make shallow copies. A deep copy copies all fields, and makes copies of dynamically allocated memory pointed to by the fields. To make a deep copy, you must write a copy constructor and overload the assignment operator, otherwise the copy will point to the original, with disastrous consequences.
4. Out-of core streaming: only a fraction of data is read from storage at any one time ghost/halo cells: they complete the neighborhood information for each piece and can be removed from the final result.
5. Regions: extents (valid index ranges for regular multidimensional arrays of data) pieces (allow unstructured grids, be decomposed into discretionary regions) blocks (whose structures have some meaning).
6. Metadata: data for data.
7. Possible priority metrics:
 - 1) Regions in close proximity to the viewer in a 3D rendering should have higher priority. Close objects are likely to obscure those behind.
 - 2) Regions least likely to be culled should have the highest priority. Only objects within a certain frustum are visible in a 3D rendering, and some filters may remove data from particular spatial regions.
 - 3) Regions with scalar values in an "interesting" range should be given priority. Rendering parameters may assign an opacity to scalar values, and higher opacity indicates a greater interest.
 - 4) Regions with more variability in a field may have higher priority. Homogeneous regions are unlikely to be interesting.

2 To do

2.1 Refine the layout.

2.2 Paper reading and miscellaneous.